1   UNITED STATES DISTRICT COURT
                      EASTERN DISTRICT OF VIRGINIA
2   ALEXANDRIA DIVISION

3   ---------------------------x
     UNITED STATES, et al.,   :   Civil Action No.:
4   :   1:23-cv-108
               Plaintiffs,   :
5   versus   :   Wednesday, September 18, 2024
                                 :   Alexandria, Virginia
6   GOOGLE LLC,   :   Day 8 p.m. (second part)
                                 :   Pages 1-61
7   Defendant.   :
     ---------------------------x
8
            The above-entitled bench trial was heard before the
9   Honorable Leonie M. Brinkema, United States District Judge.
     This proceeding commenced at 4:15 p.m.
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Direct Examination - T. Simcoe

1   P R O C E E D I N G S

2   MS. WOOD: May we proceed with the rest of the

3   video?

4   THE COURT: Yes, ma'am.

5   (Video played.)

6   MS. WOOD: All right. With that, Your Honor, the

7   plaintiffs call Professor Tim Simcoe.

8   THE COURT: All right. Mr. Simcoe, let me hear

9   you speak a little bit. I want to see if we're going to

10   give you the lapel or have you talk into the microphone.

11   THE WITNESS: Hello, my name is Tim Simcoe.

12   THE COURT: It's getting late in the day, and I

13   want to definitely be able to hear you. So please speak up

14   loudly. If I am having trouble, I am going ask you to wear

15   the lapel but not right now.

16   All right.

17   MS. WOOD: You might want to move your chair up a

18   little bit closer, as close you can. Okay.

19   TIMOTHY SIMCOE, PLAINTIFFS' WITNESS, SWORN

20   DIRECT EXAMINATION

21   BY MS. WOOD

22   Q   Good afternoon, Professor Simcoe. How are you?

23   A   Very good. Thanks.

24   Q   Can you please introduce yourself briefly to the Court,

25   and again, please try to keep your voice up.

4

Direct Examination - T. Simcoe

1 A   Sure. Good afternoon, Your Honor. My name is Tim

2 Shawn (phonetic) Simcoe. I'm a professor at the Boston

3 University Questrom School of Business where I am the chair

4 of the Strategy and Innovation Department and faculty

5 director of the Technology Policy Research Initiative.

6 Q   And can you describe at a high level your educational

7 background?

8 A   Yes. I have an undergraduate degree in Applied Math

9 with Economics from Harvard. I worked in consulting for

10 around five years. Then I went to graduate school at the

11 University of California at Berkeley where I earned a

12 Master's in Economics with fields in industrial organization

13 and econometrics and a PhD in business administration.

14 Q   And what is your primary field of academic research?

15 A   I would say my research sits at the intersection of

16 innovation and economics and industrial organization. What

17 that means is I research how economic policy affects the way

18 that firms compete, including through innovation. Much of

19 my research is empirical, which means that I use large

20 datasets to estimate how economic policies have effects.

21   MS. WOOD: And if we could, put in front of the

22 witness what's been marked for identification as PTX 1782.

23 BY MS. WOOD

24 Q   That should be in one of your smallest binders in front

25 of you.

Direct Examination - T. Simcoe

1   MS. WOOD: If we could have that up on the screen.

2   THE COURT: That's Professor Simcoe's CV. I don't

3   need to have it discussed. I assume he is being accepted as

4   an expert.

5   Specifically, Ms. Wood, in exactly what area?

6   MS. WOOD: He is being offered as an expert in

7   econometrics and industrial organization.

8   THE COURT: Any objection?

9   MS. DUNN: No objection.

10   THE COURT: He is so qualified.

11   BY MS. WOOD

12   Q   Now, Professor Simcoe, when you were first retained in

13   this matter --

14   MS. WOOD: The Court may recall this was

15   originally a damages case on behalf of the federal agency

16   advertisers.

17   BY MS. WOOD

18   Q   Is that correct?

19   A   Yes.

20   Q   And can you describe at that time what were your

21   assignments in this case?

22   A   Well, my assignment was to estimate an overcharge for

23   Google AdX's advertising exchange and to apportion that

24   overcharge between publishers and advertisers, but obviously

25   focusing on advertisers at that point in time.

6

Direct Examination - T. Simcoe

1   Apportion means to divide the harm caused by the

2   overcharge between the two parties.

3   Q   And you mentioned an overcharge. Can you explain to

4   the Court what you mean by an overcharge?

5   A   An overcharge is the difference between the price that

6   AdX charges in the real world and the price that it would

7   charge in a competitive market.

8   Q   Okay. And what is the purpose of an overcharge

9   analysis in a case such as this one?

10   A   An overcharge is a quantitative measure of the harm to

11   a specific set of parties. In this case, the users of the

12   ad exchange, the publishers and the advertisers.

13   Q   And based on your work in this matter, did you reach a

14   conclusion as to whether Google overcharged its customers

15   for AdX?

16   A   Yes.

17   Q   What conclusion did you reach in that regard?

18   A   My estimates of the overcharge on AdX range from 19 to

19   27 percent, meaning that AdX charges between 19 and

20   27 percent more for AdX users than they would in a

21   competitive market.

22   Q   Now, can you explain: What do you mean by that? What

23   is the 19 to 27 percent, and what is a competitive market?

24   A   What I mean is that the 19 to 27 percent is the

25   difference between the take rate that Google would charge in

7

1 this competitive market and its actual take rate of 19.8

2 percentage points. So in percentage terms, there's an

3 increase in the take rate of 19 to 27 percent.

4 Q   Okay. We'll go over that in a bit.

5   And can you describe in broad terms: What do you

6 mean by a competitive market, what they would have charged

7 in a competitive market?

8 A   In my analysis, I am considering a market where there

9 is no exclusivity between Google Ads and the AdX exchange,

10 no exclusivity between the ad exchange and the publisher ad

11 server in terms of real-time bidding, and where there is no

12 Unified Pricing Rules such that publishers could set

13 floors -- differential floors in the auction for different

14 exchanges and demand sources.

15 Q   Okay. Now, as you go about as an economist in the

16 field of econometrics embarking on this process of

17 estimating an overcharge, is it necessary to make

18 assumptions?

19 A   Every analysis has some assumptions, yes.

20 Q   And part of those assumptions are about what is a

21 but-for take rate?

22 A   I would say the but-for take rate is the outcome of the

23 analysis. You make some assumptions along the way in order

24 to estimate that.

25 Q   And how would you characterize the types of assumptions

8

Direct Examination - T. Simcoe

1   you've made in connection with your work on this matter?

2   A   Well, there are different types of assumptions you have

3   to make. I would maybe put them in two categories. In the

4   first category, there are assumptions that don't have any

5   obvious impact on what way the estimates would turn out, and

6   then that would make what I think of as standard economic

7   assumptions. I would just do what's standard in the field.

8   There are some kinds of assumptions that you can

9   tell would have an impact on the outcome of the analysis.

10 In that case, I would try to be conservative. I would make

11 assumptions that are favorable to Google in the sense that

12 they lead to a lower estimate of the overcharge.

13 Q   And why did you make conservative assumptions or

14 assumptions that would favor Google?

15 A   Because I think that that lends credibility to the

16 analysis and makes it reliable. It's conservative.

17 Q   Now, is your overcharge analysis intended to identify

18 all harm relating to Google's conduct at issue in this case?

19 A   No. An overcharge is a specific type of harm. It's

20 harm to the customers, here the advertisers and the

21 publishers. But there are other types of harm that are not

22 captured by an overcharge.

23   So, for example, when prices are higher than they

24 would be in a competitive market, that leads to reductions

25 in output. That reduction in output is not something that I

9

Direct Examination - T. Simcoe

1   try to measure. It's a different kind of harm.

2   Another example might be when one firm charges

3   above competitive prices, that can produce incentives for

4   other firms operating in the same market to also raise their

5   prices. That type of harm would be incurred by the

6   customers of other exchanges, but I don't try to estimate

7   that type of harm either.

8   Q   Now, you also indicated that you examined the

9   apportionment -- or your estimated apportionment of the harm

10   between AdX's customers, publishers and advertisers. Did

11   you reach a conclusion as to the apportionment of harm?

12   A   Yes.

13   Q   And what was that conclusion?

14   A   I estimated that between 70 and 80 percent of the harm

15   caused by the overcharge is incurred by publishers who use

16   the exchange and between 20 and 30 percent of the harm

17   caused by the overcharge is incurred by advertisers on the

18   AdX exchange.

19   Q   Now, when you approached this assignment, how did you

20   approach estimating the amount of the AdX overcharge? What

21   methodologies did you use?

22   A   I used two different methodologies. One is called an

23   event study, and the other is called a comparables approach.

24   Q   All right. I want to take each one in turn. Let's

25   start with the event study. What materials did you rely

Direct Examination - T. Simcoe

1   upon in performing your work?

2   A   For both methodologies, I relied on my review of

3   documents, both public documents and documents produced by

4   parties in this case. I relied on data produced by

5   third-party exchanges and by Google, and I relied on expert

6   reports that I reviewed by experts retained by both parties.

7   I relied on my own background and experience.

8   Q   And you said that you conducted an event study. What

9   is, in broad terms, an event study?

10 A   At a high level, an event study is really just a before

11 and after comparison. It's taking some outcome that you

12 want to understand what is the effect of an event on that

13 outcome. You measure the outcome before the event and after

14 the event, and you attribute differences in the outcome to

15 the event.

16 Q   And are event studies, such as the one you conducted

17 here, common in the field of econometrics?

18 A   Yes, event studies are commonly applied by economists.

19 Q   And how often have you performed event studies in your

20 professional work?

21 A   Many times.

22   THE COURT: I'm sorry. When you do an event

23 study, you have to make sure you're not including extraneous

24 information. I mean, for example, the COVID epidemic has

25 influenced all sorts of things in the economy. You filter

Direct Examination - T. Simcoe

1   out those types of extraneous matters, or do you not?

2   THE WITNESS: Yes, you do.

3   MS. WOOD: We will get to that, Your Honor. I'm

4   happy to jump to that now, or we can lay a foundation first.

5   THE COURT: No. That's fine.

6   BY MS. WOOD

7   Q   You said that you performed an event study. What was

8   the event that you studied in connection with your work

9   here?

10   A   So the event I will focus on is the simultaneous

11   adoption of a set of changes to the auctions that Google

12   runs.

13   Q   And that simultaneous event occurred in the fall of

14   2019; is that right?

15   A   That's correct.

16   Q   And what were the changes that occurred at that time,

17   in the fall of 2015?

18   A   There were three at the same time. So, first, the

19   transition from a second-price to a first-price auction

20   format; second, the removal of the last look advantage on

21   AdX; and third, the adoption of Unified Pricing Rules that

22   removed publishers' abilities to set different floors for

23   different exchanges or demand sources in the auction.

24   Q   And you looked at -- the one event, these three changes

25   were made at that one time; is that right?

                                                              12

Direct Examination - T. Simcoe

1   A   Yes, they all occurred at the same time.

2   Q   Okay.   And what were you measuring before and after the

3   event?

4   A   The outcome that I am focused on is the number of

5   impressions won by each of a set of eight exchanges in a

6   particular month.   So it's the number of impressions that

7   I'm focused on before and after.

8   Q   And what did you observe as to the number of

9   impressions for each of those eight exchanges before and

10   after the event?

11   A   In the data, the number of impressions won by AdX

12   increased relative to the number of impressions won by other

13   exchanges.

14   Q   Now, you indicated that there were three changes

15   happening simultaneously.   I want to talk about each.   As an

16   economist, what impact, if any, would you expect to see from

17   Google's move from a second-price to a first-price auction?

18   A   If we take that in isolation, I would expect to see no

19   change in the number of impressions won by different

20   exchanges.   The reason for that is like the basic standard

21   auction model that we teach in economics suggests that the

22   party that wins the auction is just the bidder willing to

23   pay the most for the item.   That willingness to pay doesn't

24   depend on whether the auction is conducted using a

25   second-price or first-price format.   So the expectation is

13

Direct Examination - T. Simcoe

1   no change as a result of that.

2   Q   So let's talk about that for a second.   In a

3   first-price auction, what winner wins the auction?

4   A   In a standard first-price auction, the winner is the

5   bidder who has the highest willingness to pay.

6   Q   And what winner wins the auction in a second-price

7   auction?

8   A   It's the same answer.

9   Q   Okay.   And is that part of why economists expect to see

10   no change based on the shift from a second-price to a

11   first-price auction?

12   A   Holding all else equal, that's exactly why.

13   Q   Now, let's talk about this second simultaneous change

14   that was made when this event occurred, and that is Google's

15   removal of last look.   The Court has heard a fair amount

16   about last look, so we won't go into that in detail.   But

17   can you tell us, based on your experience and training as an

18   economist, what would you expect to see in terms of a shift

19   of impressions associated with Google's removal of last

20   look?

21   A   From the removal of last look, I would expect to see

22   the number of impressions won on AdX decrease relative to

23   other exchanges.

24   Q   Why would you expect to see the AdX impressions

25   decrease as a result of removal of last look?

14

Direct Examination - T. Simcoe

1   A   Because last look provided an informational advantage

2   to the bidders on AdX relative to other exchanges.

3   Q   And what is about the removal of that informational

4   advantage that makes you expect to see a reduction in

5   impressions going to AdX?

6   A   Well, if you take away an advantage for AdX that helped

7   it win more auctions, you would expect to see the number of

8   auctions it wins decline. So I would expect to see fewer

9   impressions on AdX compared to the other exchanges from

10   dropping last look holding all else equal.

11   Q   And then the third simultaneous change that occurred in

12   connection with this event was Google's imposition of

13   Unified Pricing Rules. As an economist, what would you

14   expect to see in terms of a shift of impressions based on

15   Google's imposition of Unified Pricing Rules?

16   A   For this change, the answer is it depends. It depends

17   on whether publishers are able to choose an alternative ad

18   server that allows them to continue setting differential

19   price floors if they want to. So in a more competitive

20   environment, you might expect to see no change or perhaps a

21   slight decline as publishers switch away from the Google

22   product because the feature that they were using was

23   degraded.

24   In a market where the publishers can't switch,

25   however, what I would expect to see is the adopting Unified

Direct Examination - T. Simcoe

1   Pricing Rules leads to an increase in the number of

2   impressions won on AdX.

3   Q   So based on these three changes happening

4   simultaneously as part of one event, what would you expect

5   to see?

6   A   It depends on which of the three factors is the most

7   important. As it stands in the data, we saw an increase in

8   the number of impressions won on AdX, and that tells me that

9   the key driving factor was the Unified Pricing Rules.

10 Q   And why is that? Why does that tell you that the

11 Unified Pricing Rules were the key factor in these three

12 simultaneous changes?

13 A   Because that's the only one under which we would expect

14 to see or predict to see an increase in the number of

15 impressions won on AdX. And in fact, it leads to a

16 conservative before or after estimate because if we are

17 estimating both the effects of removing last look and the

18 effects of adopting Unified Pricing Rules at the same time,

19 the net effect is the combined two. And last look is a

20 negative impact and UPR has to be larger than the negative

21 impact of last look to generate a total positive increase in

22 impressions.

23 Q   And I think you just said that you view that to be a

24 conservative estimate. Why do you say that?

25 A   Because ultimately when I use the event study analysis

16

Direct Examination - T. Simcoe

1   to calculate a but-for take rate, an important piece of the

2   analysis is the estimated impact of the event, which I will

3   attribute to UPR. But if we attribute the actual change to

4   UPR, it's smaller than the true effect of UPR because last

5   look is shifting things in the other direction.

6   Q   And what does that mean in terms of your overall result

7   of your event study analysis?

8   A   In the end, what it means is that the overcharge that I

9   estimate you can think of as a lower bound on the actual

10   over charge. The true overcharge would be larger than the

11   numbers I'm providing.

12   Q   Now, did you employ any econometric tools as part of

13   your event study analysis?

14   A   Yes.

15   Q   And what were those?

16   A   I used a regression.

17   Q   And what is a regression?

18   A   A regression is a way of understanding -- well,

19   allowing data to tell you about the relationships between

20   different variables. Typically, with a regression, you have

21   an outcome variable. That will be the number of

22   impressions, as we were talking about, and then you have a

23   set of explanatory variables, which those accomplish some of

24   the holding other things constant that the Court was talking

25   about.

17

Direct Examination - T. Simcoe

1   Q   And are regressions commonly used in your field?

2   A   Yes, all the time.

3   Q   Okay. And what data did you rely on to perform your

4   regression analysis?

5   A   I used data for a set of eight exchanges. These are

6   all the exchanges that produced data that will allow me to

7   calculate the variables that I need for the analysis. So

8   all the exchanges that produce usable data. And I have

9   monthly information on the number of impressions won by each

10 exchange, as well as the take rate charged by that exchange.

11 Q   And you said you used data from eight exchanges, the

12 ones that produced usable data. What do you mean by that?

13 A   Well, it just -- I mean, they produced information that

14 was reliable and allowed me to calculate the variables that

15 I need to use in the regression.

16 Q   Now, did other exchanges produce data in the case that

17 you did not use as part of your regression analysis?

18 A   Yes, but not enough data to calculate the variables

19 that I need for this regression analysis.

20 Q   Can you explain?

21 A   Well, there were some exchanges that produced data that

22 wasn't sufficient to calculate the take rate. It didn't

23 have both net and gross revenues for the exchange, which I

24 would need to perform that calculation, or there was missing

25 data or, in one case, data that just seemed like nonsense.

Direct Examination - T. Simcoe

1   Q   And why is it important to select and use only data

2   that you considered useful for that purpose?

3   A   It's just -- it's standard, you know. So you can't run

4   a regression without having the data, and you would always,

5   in my experience, clean it carefully and try to understand

6   that it accurately reflects what economist call the

7   data-generating process, which is the underlying reality.

8   Q   Now, did you exclude any firms or exchanges for which

9   the usable data was available?

10   A   No.

11   Q   Over what period of time did you run the regression

12   analysis?

13   A   For the event study, I used what's called an event

14   window, which began one year before the set of changes to

15   Google's auctions. I think in October 2018. And then it

16   ran for two years after the event. So ending, I think, in

17   September 2021.

18   Q   And did you explore whether a different time period of

19   analysis would have led to a materially different result?

20   A   Yes. I did some robustness checks where I varied the

21   size of the event window, and it did not produce meaningful

22   differences in my results.

23   MS. WOOD: Now, finally, Your Honor, we'll get to

24   your point.

25

19

Direct Examination - T. Simcoe

1   BY MS. WOOD

2   Q   Did the regression model control for other factors that

3   might impact the number of impressions won by a given

4   exchange?

5   A   Yes.

6   Q   And can you please describe how that works?

7   A   Well, there's sort of three sets I would think of. So

8   one we already talked about, the take rate. So my

9   regression model will have in it the take rate, which is the

10   price charged by each exchange, which is an important

11   variable to control for.

12   The second --

13   Q   Before you move on, why is that an important variable

14   to control for?

15   A   Well, because in economics, we think prices and

16   quantities are linked. This is an example of estimating

17   demand. Demand curve is the relationship between price and

18   quantity. And because price helps explain -- price here

19   being the take rate -- it helps explain the number of

20   impressions that different exchanges end up wining. It's a

21   variable I include in the analysis.

22   Q   And is that part of why you could only use data from

23   firms that actually produce take-rate data?

24   A   Yes.

25   Q   Okay. So sorry I interrupted you. You said there were

Direct Examination - T. Simcoe

1   three sets of data, one related to take rate. Please go on.

2   A   Well, the second set of controls, ways that I can hold

3   other things fixed, I use a set of what are called exchange

4   fixed effects. So this is a very flexible way that

5   economists account for differences between the different

6   exchanges. Those differences could be in terms of costs, or

7   they could be in terms of features. But they are -- they

8   control or account for just a wide variety of different

9   characteristics of the exchanges themselves.

10   Q   And would those exchange fixed effects control for any

11   perceived quality differences among and between exchanges?

12   A   Yes. When I say features, you know, sort of the way I

13   think of it is that quality is potentially an outcome of

14   features. And the fixed effects control for any differences

15   in features across the exchanges.

16   Q   So if, for example, one firm had much, much better

17   malware protection or much better spam protection, would

18   that be something that your regression model would control

19   for?

20   A   Yes.

21   Q   And that would be controlled for through the exchange

22   fixed effects?

23   A   Correct.

24   Q   Okay. And then, again, I promise I'll let you finish.

25   What was the third control that your regression allowed you

Direct Examination - T. Simcoe

1   to control for?

2   A   The third are what I call time fixed effects. It's

3   similar methodologically to the exchange fixed effects, but

4   time fixed effects are just a set of variables that allow

5   for underlying changes in the environment. So for instance,

6   the internet is growing over the time period or interest

7   rates are changing. So things that affect all of the

8   exchanges collectively or have the same effect on the

9   exchanges, those are absorbed by the inclusion of these time

10   fixed effects.

11   Q   And as you indicated, the time period over which you

12   ran the regression analysis did include COVID; is that

13   right?

14   A   Yes.

15   Q   So would that be part of the sort of time fixed effects

16   that your regression model controlled for?

17   A   Yes.

18   Q   And so if, for example, display advertising as a

19   general type of advertising grew or declined over that time

20   period, again, would your model control for that as well?

21   A   Yes.

22   Q   Now, you described earlier how -- what you were

23   studying before and after the event was a shift in

24   impressions among various exchanges. Do I have that right?

25   A   Correct. So the event study piece captures this change

22

Direct Examination - T. Simcoe

1   in the number of impressions of one exchange relative to

2   another.

3   Q   And how do you translate that shift of impressions to

4   an estimated take rate as part of your overcharge analysis?

5   A   So this brings us back to that net effect of the three

6   simultaneous changes. So one part of the regression

7   estimates the shift or the before or after change that we

8   see in impressions on Google relative to other exchanges.

9   Another part of the regression estimates the

10 relationship between the take rate and impressions or take

11 rates and quantities. And I can put those two things

12 together to calculate how much an exchange would need to

13 reduce its take rate to have the same effect as UPR. In

14 other words, how much would you need to lower your take rate

15 to win as many impressions as Google won by imposing the UPR

16 rules within AdX.

17 Q   And how does that allow you to arrive at an estimated

18 but-for take rate or overcharge?

19 A   Well, that is a -- by putting those two things together

20 in that way, I have an estimate of the effect of Google's

21 exercise in market power only expressed in terms of a change

22 in take rate. So the amount of the overcharge is equal to

23 the thing I just described, the amount you would need to

24 reduce your take rate to win that many impressions. To get

25 a but-for take rate, I can subtract that difference from

23

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1 Google's 19.8 percent actual take rate.

2 Q   All right. And ultimately -- let me show you what's

3 been marked as Plaintiffs' Demonstrative T, as in Tom. And

4 it's on the screen, or it's in your binder. Do you

5 recognize Plaintiffs' Demonstrative T, as in Tom?

6 A   Yes.

7 Q   And does this material -- except for the percent

8 increase in red on the right-hand side, does the rest of

9 this data come from your report, Figure 16?

10 A   I think that's the right number, yes.

11 Q   Okay. So let's just go through this. What does

12 Plaintiffs' Demonstrative T show?

13 A   It summarizes the overcharge for four different

14 versions of my event study analysis.

15 Q   So let's start with the column on the far left. The

16 title above it reads AdX Take Rate. What is that?

17 A   That is the 19.8 percentage point take rate that AdX is

18 actually charging users of AdX.

19 Q   And where did that number come from?

20 A   That came from the data provided by Google.

21 Q   Okay. And then out to the left, you see All Exchanges

22 OLS. Can you describe to the Court what that is?

23 A   So this describes two ways of describing my analysis.

24 So all exchanges says that this is based on data from all

25 exchanges that provided usable information.

24

Direct Examination - T. Simcoe

1   Q   So those are the eight exchanges you refer to?

2   A   Yes.

3   Q   Okay. And what does OLS refer to?

4   A   Ordinary least squares. That's a type of regression.

5   Q   Oh, dear.

6   Can you describe at a high level what ordinary

7   least squares means?

8   A   It's ordinary because it's the most standard type of

9   regression. It's the one that we teach first.

10   Q   Oh, dear.

11   A   I'll go into least squares if you like, but I think it

12   might be sufficient to simply say it's based on -- well,

13   it's based on minimizing the sum of the squared errors.

14   THE COURT: Economics 101.

15   MS. WOOD: I hope in advanced economics, but we'll

16   see.

17   THE WITNESS: Maybe 102.

18   MS. WOOD: 102.

19   BY MS. WOOD

20   Q   What is all exchanges? Is that IV or Roman IV? I'm

21   not even sure.

22   A   It's IV.

23   Q   Okay. And what is that short for, IV?

24   A   Instrumental variables.

25   Q   And generally, at a high level, what does that mean?

25

Direct Examination - T. Simcoe

1   A   It's different -- so IV is different from OLS. OLS is

2   one method of estimation. IV is another method of

3   estimation that accounts for different views of causality

4   here. It's related to how I estimate the relationship

5   between the take rate and the quantities. So in an IV model

6   or instrumental variables model, we use other variables to

7   remove what's called simultaneity between price and

8   quantity. You can think of it as just another estimation

9   method.

10 Q   Okay. And then below that are two boxes where we still

11 see OLS and IV, but we have -- should that be all exchanges

12 and large exchanges? I think there might be a typo in --

13 oh, no. Both are large exchanges. Sorry. Large exchanges

14 and large exchanges but now for OLS and IV; is that right?

15 A   Correct.

16 Q   And what do you mean by large exchanges in the bottom

17 two boxes?

18 A   Here the sample that -- the data that I used changes

19 slightly. Instead of using all eight exchanges, I used six.

20 I removed two that are smaller within the set of non-AdX

21 exchanges. There are, I think, exchanges that account for

22 less than 10 percent of the number of impressions sold

23 across that set of seven non-AdX exchanges.

24 Q   And why did you run the regression both across all

25 eight exchanges and then limited to just six exchanges?

Direct Examination - T. Simcoe

1   A   It's another type of robustness test. It's useful to

2   see if changing your assumptions produces dramatic changes

3   in your results. It's also the case that here, in these

4   regressions, you can think of exchanges as getting equal

5   weight in some sense and even though they're not similarly

6   sized. And so as a robustness test, I just wanted to see

7   whether it produces a large change in the final results if I

8   drop the smallest of the non-AdX exchanges.

9   Q   And again, when you dropped the two smallest, how did

10   you define what constituted the two smallest versus the

11   remaining six largest?

12   A   They are substantially smaller. I think the way I

13   characterized it in my report was that they are less than 10

14   percent -- they are each less than 10 percent of the non-AdX

15   impressions.

16   Q   So with that understanding of the left-hand columns,

17   what do you show in the estimated take rate column?

18   A   The estimated take rate is the results of the analysis

19   that we walked through. So after applying the regression

20   model -- or estimating the regression model and performing

21   the calculations that I described, that is my estimate of

22   what Google would charge in a competitive market.

23   Q   So somewhere depending on which -- whether you're using

24   all exchanges or large exchanges and depending on whether

25   you're using OLS or IV, the estimated but-for take rate is

Direct Examination - T. Simcoe

1 between 15.7 and 16.6 percent?

2 A   That's correct.

3 Q   And that would be compared against the actual AdX take

4 rate of 19.8 percent?

5 A   Yes.   Those comparisons are in the next two columns.

6 Q   Okay.   So the percentage point increase, what is that?

7 A   That's the difference between 19.8 and the number in

8 the second column, the estimated take rate.

9 Q   Okay.   And then, finally, the numbers in red, what do

10 those show?

11 A   That expresses the overcharge as a percent of the

12 competitive price.   So it's the amount that my analysis

13 indicates the percentage changed in between a competitive

14 take rate and the actual take rate on AdX.

15 Q   Okay.   So I want to turn now briefly to your

16 comparables analysis.   What is a comparables analysis?

17 A   A comparables analysis is a direct comparison of prices

18 for transactions that may be affected by some type of

19 anticompetitive conduct and transactions that have not.

20   Here it's just -- it's a comparison of the average

21 take rate for open-web display transactions on AdX compared

22 to the average take rate charged by four transactions on

23 other exchanges.

24 Q   And why did you perform a comparables analysis in this

25 case after you've done an extensive regression?

28

Direct Examination - T. Simcoe

1   A   There's a few reasons. One, it provides a different

2   estimate of the overcharge. I mean, second, is that I think

3   it's something that almost any economist would do. So you

4   have prices. There's a question of whether there is

5   evidence of anticompetitive effects in the market. You look

6   to see if the prices on AdX are higher than the average

7   prices elsewhere. That's kind of a commonsense step.

8   And I think that the event study and the

9   comparables approach are complements of one another. The

10 event study is maybe a little harder to understand but

11 provides for a more sophisticated approach to controlling

12 for other factors. The comparables analysis is

13 straightforward because it works directly with prices.

14 Q   And how did you go about conducting the comparables

15 analysis here?

16 A   I considered what transactions to include and decided

17 to include all of the open-web display advertising

18 transactions, again, where I had usable data, and then I

19 calculated a weighted average take rate for all of the

20 non-AdX exchanges. And I compared that directly to the AdX

21 take rate.

22 Q   And was this the same data you used with your

23 regression analysis?

24 A   It's the same underlying data, but the time period is

25 different. Here I don't use the event window that I

29

Direct Examination - T. Simcoe

1 discussed. I used a different and longer time span.

2 Q   And was that longer time span consistent with the

3 damages time period for the FAAs?

4 A   It starts with the damages period for the FAAs and

5 continues for as long as I had data.

6 Q   And you said that you calculated a weighted average

7 price of all open-web display transactions that did not go

8 through AdX. Did you calculate a weighted average of each

9 exchange's take rate, or did you do something else?

10 A   So yes and no. So it's a -- mathematically, by using a

11 weighted average of the take rate of the exchanges, I can

12 calculate the average across all of the transactions on

13 those exchanges.

14 Q   Okay. So you didn't say Firm A had weighted average

15 take rate of, you know, Amount A; Firm B had a weighted

16 average take rate of a different take rate. You calculated

17 the take rate of all non-AdX exchanges as one number. Am I

18 understanding that?

19 A   That's correct. The weights are by exchange, and I'm

20 calculating an average over all of them. That's right.

21   THE COURT: When of you say all, you mean all

22 eight of these exchanges?

23   THE WITNESS: It would be seven because AdX is one

24 in that eight number. So I take AdX out.

25   THE COURT: Right. Okay, those seven?

30

Direct Examination - T. Simcoe

1   THE WITNESS: Yes.

2   THE COURT: All right.

3   BY MS. WOOD

4   Q   Okay. And how many impressions total were included in

5   this comparable analysis that you ran?

6   A   The transactions run into the trillions.

7   Q   And so you took out the AdX impressions and ran the

8   data over trillions of impressions to reach a weighted

9   average take rate that did not go through AdX; is that

10 right?

11 A   Yes, that's right.

12 Q   Okay. And how would you characterize the level of

13 conservatism embedded in this approach to an overcharge?

14 A   You could characterize it as conservative for various

15 reasons. I think the main reason it's potentially a

16 conservative benchmark is that the -- there's an idea in --

17 well, it's because if Google's take rate is above what it

18 would charge in a competitive market, that provides

19 incentives for other exchanges to also increase their take

20 rates.

21   And so since those take rates are elevated

22 relative to a competitive level, the benchmark I'm using is

23 higher than the benchmark that you would get by averaging

24 the take rates that those exchanges were charge in a

25 competitive world.

31

Direct Examination - T. Simcoe

1   Q   And does that have a name in economic literature?

2   A   It does. The jargon in economics is strategic

3   complementarity. That's the idea that when one firm raises

4   its price, so do the others.

5   Q   And if we can, take a look at Plaintiffs' Demonstrative

6   U. Can you tell us what Plaintiffs' Demonstrative U shows?

7   A   This is the results of the comparables analysis

8   presented in a similar format to what we walked through in

9   the case of the event study.

10   Q   And again, all exchanges would be all seven excluding

11   AdX; is that right?

12   A   That's correct.

13   Q   And large exchanges would be excluding the two that

14   each constitute less than 10 percent of AdX?

15   A   Less than 10 percent of the non-AdX exchanges, yes.

16   Q   Okay. And so what result did you reach in connection

17   with your comparables analysis?

18   A   I can see from the comparables analysis that the

19   weighted average take rates of the comparable exchanges are

20   between 15.6 and 16.2 percent.

21   Q   Now, unlike your regression analysis, is the

22   comparables analysis able to factor in or factor out quality

23   differences?

24   A   I did -- I considered quality differences. You can't

25   account for quality differences in exactly the same way in a

Direct Examination - T. Simcoe

1 comparables analysis as you do in an event study.

2   One reason to do the event study is that the kind

3 of quality adjustment you might perform directly on price

4 requires some very strong kinds of economic assumptions that

5 often you wouldn't want to make. So instead, you turn to

6 event study or something like it. But I mean, I guess the

7 answer is no.

8 Q   And is that why you called these two approaches as

9 complementary to each other?

10 A   Yes.

11 Q   Okay. So let me turn now to your apportionment

12 analysis. What analysis did you conduct to determine how

13 the AdX overcharge was felt by advertiser versus publisher

14 customers of AdX?

15 A   I used something called a tax incidence model.

16 Q   And what is a tax incidence model?

17 A   A tax incidence model is an economic model that is used

18 to provide a quantitative estimate of who pays the burden of

19 a tax, the buyer or the seller.

20 Q   And how is it that both buyers and sellers both pay a

21 tax?

22 A   Well, a tax, which here is sort of equivalent to the

23 take rate because they have a similar structure, affect both

24 buy buyers and sellers because buyers end up paying more for

25 the item and sellers end up receiving less after tax money.

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1   The tax is an amount that's collected between when the buyer

2   pays and when the seller receives. And sort of the inside

3   of the tax incidence model is that both sides are harmed.

4   Q   Now, given that the tax is taking out of what the buyer

5   pays before the money reaches the seller, what impact, if

6   any, does that have on the buyer's ability to purchase?

7   A   I think the way to think about it is to sort of

8   consider that when the seller receives less money, some

9   sellers will be unwilling to sell the item. In an auction

10   context, that's like the bid falling below the floor after

11   the take rate is increased.

12   And when there's fewer items available for sale,

13   economics teaches us that the price goes up. There's less

14   supply, and that leads to an increase in price. And that

15   affects the buyer. You can think of it also as the buyer

16   having less money for future transactions. But at the level

17   of the market, prices increase to the buyer and they

18   decrease for the seller.

19   Q   And are tax incidence models, such as the one you used

20   here, well accepted in the field of economics?

21   A   The idea of tax incidence has been around for over a

22   hundred years. It's kind of a celebrated idea within

23   economics, and the tool is widely applied. We teach it, and

24   we use it across many different fields in economics.

25   Q   So can you describe to the Court: How did you go about

34

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1 applying the tax incidence model in this case?

2 A   Well, you can think of the model as providing a

3 formula, and the formula needs a couple of inputs.

4   The key inputs are the price sensitives of the

5 buyer and the price sensitives of the seller. And then when

6 you take those inputs and you put them into the formula,

7 what you get as an answer is what is the share of the tax or

8 the share of the increase in the take rate that is paid on

9 the buyer's side -- in this application, that's going to be

10 advertisers -- and what is the share that's incurred on the

11 seller's side here, the publishers.

12 Q   And how did you determine the price sensitivities of

13 buyers and sellers here?

14 A   So those key inputs are price sensitivities, what

15 economists sometimes call elasticities. I was able to

16 estimate those using data from auctions, millions of

17 auctions that the Google produced. These were auctions from

18 the summer of 2023, and the data that they provided has

19 information on all the bids submitted by different bidders

20 to purchase individual open-web display impressions.

21   And by simulating small changes in the bids of

22 either AdX bidders are non-AdX bidders, I could estimate

23 those price sensitivities or demand-and-supply elasticities

24 and put those into the tax incidence formula.

25 Q   What checks, if any, did you perform on whether your

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1 price sensitivity estimates were reliable?

2 A   Well, to understand if the price sensitivity estimates

3 were reasonable, I relied on experiments that Google

4 conducts in the ordinary course of business. So I reviewed

5 a number of Google experiments, and I identified several

6 that would allow me to calculate an implied elasticity of

7 supply or an implied seller price sensitivity or implied

8 buyer price sensitivity.

9   And after I performed those calculations, I could

10 seed that my own estimates based on the auction data fell

11 within the range of the calculations that I did based on

12 Google's experiments. That made me think that my estimates

13 were more reliable.

14 Q   So what was the result that you concluded based on your

15 tax incidence model that you used for apportionment?

16 A   The bottom-line result is that the advertisers incur

17 between 20 and 30 percent of the harm from the overcharge

18 and the publishers incur between 70 and 80 percent of the

19 harm from the overcharge.

20 Q   And as an economist, can you explain why it is that

21 publishers bear a larger burden of the AdX overcharge than

22 advertisers?

23 A   Well, what's reflected in those price sensitivities is

24 really the availability of alternatives or better options

25 than the transaction at hand. So to the extent that

36

Cross-Examination - T. Simcoe

1   advertisers have more other things that they can do with the

2   spend, they are going to be less harmed by the overcharge

3   than a publisher who has fewer alternatives.

4   MS. WOOD: I'll pass the witness.

5   THE COURT: All right.

6   MS. DUNN: With the Court's indulgence, Your

7   Honor, we would like to hand out the binders.

8   THE COURT: Yes.

9   MS. DUNN: I would also like to introduce the

10   Court to my colleague, Bryon Becker, who is with us at

11   counsel table.

12   THE COURT: All right. Go ahead.

13   MS. DUNN: Thank you, Your Honor.

14   CROSS-EXAMINATION

15   BY MS. DUNN

16   Q   Professor Simcoe, my name is Karen Dunn. I'm a lawyer

17   on behalf of Google, and I'm going to ask you some questions

18   this afternoon.

19   I will not start with tax incidence because it's

20   after 5:00. I try not to talk about tax incidence after

21   5:00.

22   Okay. So you testified on direct about your

23   opinion in this case, which just simply put is an estimate

24   of the proportion the fees that Google's AdX platform you

25   find attributable to the exclusionary conduct at issue in

                                                              37

Cross-Examination - T. Simcoe

1   this case. Is that simply put your opinion?

2   A   I think it's broadly correct; although, you could think

3   of Google's market power as arising from a wide variety of

4   different conduct. So it depends on what you mean by

5   exclusionary conduct.

6   Q   Okay. Well, we can talk about that. But essentially,

7   you're offering the Court a proportion of the fees that you

8   say is attributable to the exclusionary conduct, correct?

9   That's what you've taken out in your but-for world?

10 A   It's the same question I think, so the same answer,

11 yes.

12 Q   Okay. And in particular, you compute a percent

13 overcharge for open-web display ad impressions via real-time

14 bidding on the AdX platform, correct?

15 A   Yes.

16 Q   Okay. And you also offered an opinion -- you talk a

17 little bit in your report about the federal agency

18 advertisers. Do you recall that?

19 A   Yes.

20 Q   And you refer to them as representative advertisers of

21 other advertisers with respect to supply and demand?

22   MS. WOOD: Objection. Irrelevant, 403, and also

23 beyond the scope given Google's dismissal of those claims

24 involuntarily.

25   THE COURT: I don't see any relevance at all of

Cross-Examination - T. Simcoe

1   the government buyers in this case, the military.

2   MS. DUNN: We think the relevance will become

3   clear, Your Honor.   We can move on, and we'll --

4   THE COURT: Move on.

5   MS. DUNN: And the Court can see the relevance to

6   Professor Simcoe's opinions, specifically with respect to

7   his but-for world.   But we'll prove it up as we go forward.

8   THE COURT: All right.

9   BY MS. DUNN

10   Q   Okay.   But just to be clear at the outset, what you're

11   opining on and what you're not opining on, you're relying on

12   Professor Lee for the definition of the relevant antitrust

13   markets in this case, correct?

14   A   Yes.

15   Q   And you also rely on Professor Lee's conclusions that

16   Google's conduct was exclusionary, correct?

17   A   I would say I reviewed Professor Lee's report, the

18   methods that he used, the data sources that he relied upon,

19   and I agree with it, yes.

20   Q   Okay.   But you're not offering any independent opinions

21   related to Professor Lee's conclusions, correct?

22   A   Which conclusions?

23   Q   With respect to what Professor Lee finds is

24   exclusionary conduct and with respect to his relevant

25   market.

Cross-Examination - T. Simcoe

1   A   I'm relying on Professor Lee's market definition.   I

2   believe we agree on the question of exclusionary conduct as

3   well.   My analysis focuses on effects.   I think you could

4   make an inference from some of the effects that I estimate

5   that Google has market power that's attributable to the

6   exclusionary conduct.

7   Q   Do you recall being asked in your deposition whether

8   it's accurate that you do not offer any independent opinions

9   related to Professor Lee's conclusions, and you responded,

10   "I believe that's correct"?   Do you recall that?

11   A   Not specifically, but I take your word for that.

12   Q   Okay.   All right.   And then you said that your opinions

13   are based on reviewing Google documents and third-party

14   documents in this case --

15   A   Yes.

16   Q   -- in part?

17   And so out of -- you may not know this, but the

18   Court is aware that over 6 million Google documents were

19   produced in this case.   And you reviewed 48 of those in

20   preparation of your opening report; do I have that right?

21   A   I haven't tried to count, but I certainly reviewed more

22   than I cited in footnotes.   I'm not sure where you get the

23   48.

24   Q   Well, sir, if you -- you have your report up there, and

25   if you look at Appendix B, materials relied on, produced

40

Cross-Examination - T. Simcoe

1   documents?

2   MS. WOOD: Do you have a page number?

3   MS. DUNN: Appendix B. Let me find the page.

4   It's page 5.

5   BY MS. DUNN

6   Q   Professor Simcoe, just let us know when you're there.

7   A   I think so.

8   Q   And do you see the list of produced documents in your

9   materials relied upon?

10 A   Yes.

11 Q   Okay. And you see -- I might spare you from counting

12 them, but it should be relatively obvious that there are

13 only 53 documents on this list and several belong to

14 third-parties. And so we did count, and you reviewed 48

15 Google documents for this report.

16 A   I don't think that's correct. If I could clarify, it's

17 not the number that I reviewed. This is the number that I

18 relied upon, which I believe is simply the number that are

19 cited in my opening report.

20 Q   Okay. To the extent that you form opinions, you would

21 have relied upon only these documents, correct?

22 A   I guess that's -- you know, the way I think of it is

23 these are sufficient.

24   THE COURT: All right. Just so I'm clear, we're

25 looking at page 5?

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Cross-Examination - T. Simcoe

1   MS. DUNN: We are looking at page 5, Your Honor.

2   THE COURT: It says produced documents. They all

3   seem to have footnote numbers on them too.

4   MS. DUNN: Those are numbers just listing the

5   relied-upon materials. They actually do not correspond to

6   footnotes. The numbers that precede this are articles, for

7   example.

8   THE COURT: All right.

9   BY MS. DUNN

10 Q   Okay. All right. So we can agree this is what's in

11 your materials relied upon, correct?

12 A   Yes.

13 Q   Okay. And then I don't know if you want to go through

14 this exercise, but your materials relied upon for your

15 rebuttal report include five additional Google documents; is

16 that fair?

17 A   I don't know, but I will take your word for that.

18 Q   Okay. And these documents were selected for you by

19 plaintiffs' counsel, right?

20 A   Again, I think I asked for documents and was provided

21 various types of documents to review. Presumably, they came

22 through plaintiffs' counsel.

23 Q   Right. Okay.

24   All right. So now let's talk about the substance

25 of your opinions, sir. You are comparing an as-is take

                                                          42

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1   rate, which is the take rate in the real world, to a but-for

2   take rate. And when you do that, you conclude that Google

3   charges a super competitive price for open-web display

4   advertising purchased via real-time bidding on Google's ad

5   exchange called AdX. That's correct, right?

6   A   All right. So I think it's important to just be clear

7   that we're talking about the AdX tool. But maybe that's

8   what you meant with that, or maybe I wrote it and that's

9   what I meant.

10 Q   Well, you can call it the AdX tool because Professor

11 Lee does his markets by tool, right?

12 A   Professor Lee's market definition -- one of the markets

13 is exchanges, which is one of the tools in the ad tech

14 stack.

15 Q   Okay. And you rely on that, and otherwise, what I said

16 is accurate, right?

17 A   Well, would you say it again?

18 Q   I think the Court understands.

19   But the point I'm trying to make is you're not

20 offering an opinion on super competitive pricing across the

21 ad tech stack, right?

22 A   No, that's not something I would try to do.

23 Q   Right. And you do not assess, therefore -- just to put

24 a fine point on this -- whether Google's price across the ad

25 tech stack is super competitive, correct?

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1   A   To the extent I'm not sure what the price across the ad

2   tech stack means -- you mean the sum of the take rates for

3   different tools?

4   Q   I mean that if you're talking about the tools that

5   connect publishers to advertisers across the ad tech stack

6   that Google offers, you're not opining that those take rates

7   for that full stack are super competitive. Your focus is

8   only on the AdX tool, correct?

9   A   I focus on the AdX tool, that's correct.

10 Q   Okay. And you remember that Professor Sinaniyev

11 (phonetic), who the Court will hear from later in this

12 trial, responded to your report, right?

13 A   Yes.

14 Q   Okay. And she does do analysis comparing or assessing

15 the stackwide take rate. You recall that, right?

16 A   I do recall Professor Sinaniyev's analysis, yes.

17 Q   Okay. And you say that that improperly combines fees,

18 right? That was your opinion?

19 A   I think it's better understood as it improperly

20 combines products that are not substitutes for each other

21 but rather complements.

22 Q   Okay. And you say that Professor Sinaniyev's approach

23 is analogous to adding the price of apples and oranges sold

24 by one fruit producer and comparing that sum to the combined

25 price of apples and oranges from another fruit producer in

Cross-Examination - T. Simcoe

1   order to suggest that the first fruit producer is charging a

2   competitive price for apples? You say that?

3   A   I think I offered that analogy in my rebuttal report,

4   yes.

5   Q   And I'm going to ask what I hope is any easy question,

6   which is you don't need an apple to eat an orange, right?

7   A   No, you don't.

8   Q   All right. I'd like to show you, sir, what's been

9   marked as Plaintiffs' Exhibit 1199. This is Figure 4 from

10   your report in this case.

11   MS. WOOD: No objection.

12   THE COURT: I'm sorry?

13   MS. WOOD: No objection.

14   THE COURT: All right. It's in.

15   MS. DUNN: And, Your Honor, we are going to show

16   the redacted version of this figure because, as Your Honor

17   may remember because you've seen this chart before at our

18   main hearing, we've just redacted the firm names.

19   THE COURT: That's fine.

20   MS. DUNN: Thank you.

21   BY MS. DUNN

22   Q   Okay. So --

23   MS. WOOD: And, Your Honor, just to be clear,

24   presumably, the unredacted will be under seal as we've been

25   doing with the other exhibits.

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Cross-Examination - T. Simcoe

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 1            THE COURT:  Correct.  So the only one that goes on

 2   the website tomorrow will be this one that we're looking at

 3   right now, which doesn't have the names.

 4            MS. DUNN:  Yes, Your Honor.  Thank you.

 5   BY MS. DUNN

 6   Q    Okay.  So the first thing, Professor Simcoe, is that

 7   I'd like to direct your attention just to the title of your

 8   Figure 4.  It says, Effective Take Rate for Worldwide

 9   Open-Web Display + Video Outstream Impressions.  Do you see

10   that?

11   A    Yes.

12   Q    Okay.  And you calculated -- to get what we see on this

13   chart, you calculated the average take rate for several ad

14   exchanges on a monthly basis.  You took net revenue divided

15   by gross revenue.  Do I have that right?

16   A    Yes.  For each exchange, I divided net revenue by gross

17   revenue to get a take rate.

18   Q    Right.  And your analysis is based on worldwide data,

19   not U.S. specific data, correct?  It seems fair from the

20   title, right?

21   A    Yes.

22   Q    And just to be clear, your analysis is limited only to

23   open-web display advertising as defined by Professor Lee,

24   correct?

25   A    The impressions are open-web display and video
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Cross-Examination - T. Simcoe

1   outstream, that's correct.

2   Q   Okay. Now, I'd like to -- we'll come back to this

3   Figure 4, but I'd like to look at how you define display

4   advertising. And so we'll show you on the screen, but

5   you're free to look in your report at paragraph 20.

6   All right. Do you need to -- can you look at the

7   screen, or do you want to look at your report?

8   A   I can see.

9   Q   It's up to you. Okay.

10   All right. So you say here in your report that

11 display advertising refers to various types of

12 advertisements that may be served to users who browse

13 websites or use mobile apps.

14   Do you see that?

15 A   Yes.

16 Q   And that's in your report under this title Display

17 Advertising Basics, right?

18 A   Correct.

19 Q   Not to belabor the obvious, but you include apps?

20 A   Okay.

21 Q   It says apps, right?

22 A   It does, yes.

23 Q   Okay.

24 A   But this --

25 Q   Okay. So then you move along in this paragraph, and

Cross-Examination - T. Simcoe

1   you also talk about what is an impression. And do you see

2   there's a Footnote 8 after the word "impression." And maybe

3   Mr. Spalding can highlight that for you. Do you see that?

4   A   Yes.

5   Q   All right. Let's go to Footnote 8 of your report. And

6   here you cite both the Lee report and you cite an article.

7   The article is entitled *What is an Ad Impression? All you*

8   *need to know.* Do you see that?

9   A   Yes.

10   Q   And you say that an ad impression occurs when an

11   advertisement is successfully displayed to a user on a

12   website, mobile app, or any digital platform. You see that,

13   correct?

14   A   Yes, I see it.

15   Q   All right. And then if you look at the next paragraph

16   of your report, you hone in specifically on what display ads

17   are, and you say, "Display ads may consist of images, texts,

18   interactive elements, audio, or some combination of these."

19   Do you see that?

20   A   I see it.

21   Q   And then you cite -- at Footnote 10, you cite a Google

22   document, one of the ones that you reviewed and relied on,

23   called Google Display Network Presentation.

24   Do you see that?

25   A   Yes.

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Cross-Examination - T. Simcoe

1   Q   Okay. And it says, "When it comes to ad creatives,

2   there are several that you could run on the Google display

3   network," and then you list text ads, responsive ads, native

4   ads, image ads, dynamic ads, light box ads, video ads, and

5   Gmail ads. Do you see that?

6   A   Yes, I see it.

7   Q   I don't know what a light box ad is. Do you?

8   A   No.

9   Q   Okay. All right. Staying with Footnote 10, you then

10   cite a blog for your opinion that reads, "Display ads are

11   graphic adverts that appear online on websites, mobile apps,

12   and social media."

13   Do you see that?

14   A   Yes, I see it.

15   Q   Okay. So let's return to Figure 4. And just to be

16   clear, notwithstanding the fact that you define display

17   ads -- all of these kinds of display ads under basics, they

18   are not taken into account in your Figure 4, correct?

19   A   So at the very beginning of my report, when I describe

20   some --

21   Q   Sir, this is really just a yes-or-no question, and

22   plaintiffs' counsel can ask you to expand when they get up

23   on redirect.

24   So is the answer yes or no?

25   A   Would you please repeat the question.

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Cross-Examination - T. Simcoe

1   Q   Sure.   Notwithstanding the fact that you listed all of

2   those kinds of ads under display basics, any data from that

3   is not reflected in your Figure 4, correct?

4   A   I am not -- so I'm not sure I understand the question.

5   Any data from what is not reflected in Figure 4?

6   Q   So Figure 4 doesn't have data from in-app ads, from

7   native ads, from all the things that we listed, video,

8   instream video.   You do have outstream video.   But that list

9   that we went over, there are types of ad formats that are

10   not reflected in the data that you put in Figure 4; am I

11   right?

12   A   The report defines open-web display impressions, which

13   does exclude many of the types of ads that you read, and the

14   chart is based on open-web display impressions.

15   Q   Okay.   But, sir, in this case, we are having a lot of

16   discussion about what display ads mean.   You have defined

17   display ads in your report.   Okay.   And there are ads in

18   your report under basics that are not -- for example, in-app

19   ads, not in this Figure 4, correct?

20   A   Yes.

21   Q   Native ads not in this Figure 4, correct?

22   A   Yes.

23   Q   All kinds of video not in Figure 4, correct?

24   A   Well, there's instream and outstream.   I believe

25   outstream is in the figure, but instream is out of the

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Cross-Examination - T. Simcoe

1 figure.

2 Q   Okay. But you appreciate that there are ads not in

3 your Figure 4, right?

4 A   Yes, some of the formats that you described from the

5 basic section of my report.

6 Q   All right. So let's look at the redline on your

7 Figure 4.

8   MS. DUNN: Your Honor may recall that the redline

9 represents, in this Figure 4, what Professor Simcoe calls

10 Google's effective take rate for open-web display

11 impressions on AdX worldwide.

12 BY MS. DUNN

13 Q   Right?

14 A   Yes.

15 Q   Okay. And you say in your report that you do not mean

16 to imply that AdX charges 20 percent for every publisher or

17 every transaction. Do you recall that?

18 A   Yes.

19 Q   Right. And that's because there's sometimes

20 negotiation and deals made, right?

21 A   Well, it's because there can be variation across

22 impressions in the take rate charged.

23 Q   Right. So this -- but I'm just trying to make clear

24 that there -- it's not the same rate for every publisher and

25 every impression, correct?

Cross-Examination - T. Simcoe

1   A   Yes.

2   Q   Okay. All right. Now -- and we could agree,

3   presumably, that the redline stays more or less the same

4   over the time period that you have here, correct?

5   A   Yes. A striking feature of the graph is that the

6   redline is very constant relative to the take rates of the

7   other exchanges.

8   Q   Yes. So you reviewed the Lee report, and you know,

9   therefore, that Professor Lee says Google attained

10   substantial market power in what he calls the ad exchange

11   market in 2015. Do you recall reading that?

12   A   I recall reading Professor Lee's report, yes.

13   Q   Do you recall that he said -- I mean, you said you

14   were -- that you had opinions -- or, I, guess that you

15   relied on Professor Lee about market power. So my question

16   to you, sir, is whether you remember that he says Google

17   attained substantial market power in the ad exchange market

18   in 2015. Do you recall that?

19   A   The preface to your question was not correct. I don't

20   rely on Professor Lee for market power as you put it.

21   Q   Okay. But you don't disagree with me that Professor

22   Lee said he concluded that AdX had substantial market power

23   in what he calls the ad exchange market since 2015?

24   A   No, I don't disagree.

25   Q   Okay. And it's fair to say that in your Figure 4, both

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Cross-Examination - T. Simcoe

1   before, during, and after 2015 -- at this point, defined by

2   Professor Lee -- the redline remains, you know, more or less

3   the same. You agree with that, right?

4   A   A firm can choose to exercise its market power in

5   various ways, but it's true that the redline is constant.

6   Q   Right. So whatever else we know, we know that Google

7   did not jack up its price after this time where Professor

8   Lee says we had market power, right?

9   A   Google's price in the ad exchange market is constant

10 over time. That's true.

11 Q   Okay. So the answer to my question is no?

12 A   I don't know what you mean by jack up its price, but I

13 think I understand. The answer is the price is constant.

14 Q   Right. The answer to my question is no.

15   All right. So if you look at -- let's look at

16 another aspect -- another what you call startling feature of

17 Figure 4, which is the vast majority of exchanges are

18 between 15 and 20 percent for an average take rate. You can

19 see that, right?

20 A   I'm sorry.

21 Q   Your Figure 4 shows that the vast majority of exchanges

22 that you have here, the eight, are between 15 and 20 percent

23 for their average take rate; isn't that correct?

24 A   Well, in the time period -- it depends on the time

25 period, but the exchanges -- the other exchanges -- well, in

Cross-Examination - T. Simcoe

1   fact, we know, as I testified on direct, the average take

2   rate charged by the other exchanges for a long period of

3   time was about 16.2 percent.

4   Q   Right. We'll talk about the 16.2. And maybe where

5   we're having a departure is after a certain time, they're

6   between 15 and 20 percent. But before that, they're

7   actually higher than that; is that fair?

8   A   Some are above and some are below, yes. There's a

9   downward trend over time, it looks like, for the other

10 exchanges. I think most of the time they're between 15 and

11 20 percent.

12   MS. DUNN: Okay. All right. Now, I'm going to

13 use colors and not names, Your Honor.

14 BY MS. DUNN

15 Q   One exchange, the gray line, maintains an effective

16 take rate above 30 percent and has never been below Google's

17 AdX, right?

18 A   That's a -- the point I would like to make without --

19 well --

20 Q   I think you can make that point on redirect, but we

21 agree that just you're looking at the line, right?

22 A   That line is above 25 percent.

23 Q   Okay. And the purple line we see is consistently below

24 average of 15 percent, right?

25 A   Yes.

Cross-Examination - T. Simcoe

1   Q   And these four other exchanges have take rates that at

2   certain points during the period were actually above AdX,

3   correct?

4   A   There were points in time where other exchanges have an

5   average take rate above AdX.

6   Q   Okay. And I'm going to ask you another yes-or-no

7   question. At those points in time where those other

8   exchanges had take rates above the average and above AdX,

9   you are not opining that those ad exchanges were charging

10   super competitive prices, correct?

11   A   I am not alleging that other exchanges are charging

12   super competitive prices, but I am not doing a comparables

13   analysis for those exchanges either.

14   Q   Right. You didn't do comparables analyses for those

15   other exchanges either, right?

16   A   The --

17   Q   That's what you just said, yes?

18   A   That's correct.

19   Q   Okay. And can we also agree that Google has never had

20   the highest price on this chart?

21   A   Among these exchanges, yes.

22   Q   Okay. But those were the ones you included, though,

23   right?

24   A   Yes.

25   Q   Okay. All right. So I want to now talk about your

55

Cross-Examination - T. Simcoe

1   16.2, and you testified on direct that both of your

2   approaches, the comparables study and the event study, they

3   both resulted in a but-for AdX take rate of 16.2 percent.

4   Do I have that right?

5   A   On direct, I offered a range of estimates based on

6   different ways of conducting the two analyses.

7   Q   That's fair. But the one overlapped number is your

8   16.2, right?

9   A   No. I mean, there's ranges -- the ranges overlap.

10   Q   Okay. And the 16.2 is with respect to -- you have

11   large exchanges and all exchanges, right, and the 16.2 is

12   the all, right?

13   A   For the comparables analysis, yes.

14   Q   Okay. And so I'm going to just briefly ask

15   Mr. Spalding to bring back up what's been marked -- I'm

16   sorry -- what we just discussed, your Figure 4. And I just

17   want to ask Mr. Spalding to put a line at the 16.2, which is

18   the but-for take rate that you calculated.

19   And just to be clear, first of all, you calculated

20   the 16.2 percent only for the period from January 2019 to

21   March 2023, right?

22   A   Yes, starting with the damages period and extending

23   through 2023 when the data -- the end of the data I have.

24   Q   Understood. Totally fair is the damages period. But I

25   just want to be clear that the comparables approach is using

Cross-Examination - T. Simcoe

1   the data just from that period, January 2019 to March 2023,

2   right?

3   A   Yes.

4   Q   Okay. And so we can agree that between 2017 and 2019,

5   the period you did not use, that there are some pretty high

6   numbers on this chart with respect to the green, orange,

7   blue, gray, and yellow lines, right?

8   A   It depends on what you mean by pretty high, but the

9   weighted average would reflect also the weights, which

10 depends on the scale of the other exchanges.

11 Q   We're going to talk about scale. Right now I'm just --

12 I feel like this is -- this has been a prominent figure in

13 our discussions with the Court. So I want to make sure that

14 we see what's going on on this figure.

15   Okay. But we agree that most of the lines on the

16 chart, the actual vast majority of all of these exchanges

17 are above the 16.2, correct?

18 A   It depends on what time period you look. I guess in

19 the yellow time period, it looks like three or four are

20 below the black line and one, two, three are above the black

21 line.

22   MS. DUNN: Your Honor, we'd offer -- we'd ask to

23 admit -- and we can mark this --

24   THE COURT: You want this version with the --

25   MS. DUNN: Yes, Your Honor.

1   MS. WOOD: No objection.

2   THE COURT: All right. Why don't we call that

3   1199A.

4   MS. DUNN: Yes, Your Honor.

5   THE COURT: All right.

6   MS. WOOD: Just, Your Honor, there may be an A

7   already for the sealed version with the actual firm names.

8   So maybe B perhaps.

9   THE COURT: 1199B.

10   MS. DUNN: Sold.

11   MS. WOOD: Thank you, Your Honor.

12   THE COURT: All right. And I think at this point,

13   it's time to stop because we need to read in our exhibits

14   that were introduced to.

15   So, Professor, we will need you back here

16   tomorrow.

17   I have -- tomorrow is Thursday.

18   Are you starting with somebody else tomorrow?

19   MS. WOOD: Well, I was going to ask, with the

20   Court's indulgence, if we could finish this exam and then

21   start with the next witness that is a Google adverse

22   witness.

23   THE COURT: That's fine.

24   MS. WOOD: Okay.

25   THE COURT: So, Professor, you can move out of the

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1   hot seat there. All right. We will see you back here

2   tomorrow morning at 9:00.

3   MS. DUNN: Your Honor --

4   THE COURT: Wait.

5   I'm hoping we can start at 9:00 on the dot. I

6   have three pretrials at 8:30. They should clear by quarter

7   of 9:00. You're going to have to clean your desks again

8   tonight unfortunately. But that's the plan for tomorrow

9   morning.

10   Yes, Ms. Dunn.

11   MS. DUNN: I apologize, Your Honor.

12   Give that Professor Simcoe is not a third-party,

13   he's an expert, we would ask that plaintiffs' counsel not

14   discuss his testimony because his cross has already begun.

15   MS. WOOD: Of course, Your Honor.

16   THE COURT: That's fine.

17   MS. DUNN: Thank you.

18   THE COURT: All right. Katie, are you ready to

19   read them?

20   THE COURTROOM DEPUTY: Yes.

21   PTX 66 --

22   THE COURT: Wait. Hold an a second because that

23   door makes so much noise. Let's get everybody who is going

24   to move out out so that we can do this.

25   (People exit.)

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 1              THE COURT:  Okay.

 2              THE COURTROOM DEPUTY:  PTX 66, PTX 198, PTX 116,

 3  PTX 124, PTX 997, PTX 208, PTX 333, PTX 686, PTX 421, PTX

 4  499, PTX 578, PTX 832, PTX 485, PTX 1517, PTX 284, PTX 971,

 5  PTX 128, PTX 209, PTX 326, PTX 847, PTX 141, PTX 159, PTX

 6  1265, PTX 1265A, PTX 1266, PTX 1266A, DTX 85, PTX 1717, PTX

 7  1633, DTX 2530, PTX 618, PTX 572, PTX 373, PTX 851, PTX

 8  1033, PTX 144, PTX 174, PTX 445, PTX 604, PTX 759, PTX 767,

 9  PTX 792, PTX 953, PTX 978, PTX 993, PTX 1017, PTX 1728, PTX

10  1782, PTX 1199, and PTX 1199B.

11              THE COURT:  1199A and B, right?

12              MS. WOOD:  Yes, Your Honor.

13              THE COURT:  All right.  A is going to be the --

14  1199 is the unredacted that stays with the Court.  1199A is

15  the redacted version, and B is the redacted version with the

16  nice black stripe through it.

17              MS. DUNN:  Yes.  Thank you, Your Honor.

18              THE COURT:  All right.  Were there any that either

19  side feels we've missed or any that's there that you didn't

20  think were entered?

21              MS. WOOD:  PTX 1782, can I just ask who that came

22  in through?

23              THE COURTROOM DEPUTY:  That was Simcoe, his CV.

24              MS. WOOD:  Oh, great.  Thank you.  Sorry I didn't

25  write it down.  Sorry.
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1   THE COURT: All right. Are there any other

2   housekeeping matters we need to address?

3   MS. WOOD: No, Your Honor.

4   MS. DUNN: No, Your Honor.

5   THE COURT: And the website, I haven't been

6   checking it. There are no problems with the exhibits and

7   the portions of the depositions and all of that stuff is

8   coming out?

9   MS. DUNN: Yes, Your Honor.

10   THE COURT: I have not heard any complaints from

11   the media folks. So I assume they're satisfied.

12   MS. DUNN: Yes.

13   THE COURT: All right. Very good.

14   We'll recess court, then, until 8:30 tomorrow

15   morning.

16   (Proceedings adjourned at 6:00 p.m.)

17   ----------------------------------

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22
        I certify that the foregoing is a true and
23
     accurate transcription of my stenographic notes.
24
                            _____
                            /s/
25   Rhonda F. Montgomery, CCR, RPR